

**IN THE UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF ILLINOIS  
EASTERN DIVISION**

VAREX IMAGING CORPORATION, a  
Delaware Corporation,

Plaintiff,

v.

RICHARDSON ELECTRONICS, LTD.,  
a Delaware Corporation,

Defendant.

Case No. 18-cv-6911

Judge John Robert Blakey

**MEMORANDUM OPINION AND ORDER**

Plaintiff Varex Imaging Corporation sued Defendant Richardson Electronics, Ltd. for patent infringement. Defendant moved to dismiss Plaintiff's complaint for failure to state a claim under Rule 12(b)(6), arguing that Plaintiff's sale of the patented invention terminated its patent rights, thereby precluding any infringement claim. For the reasons explained below, this Court denies Defendant's motion.

**A. Factual Background<sup>1</sup>**

Plaintiff produces X-ray tubes, including its flagship product, the MCS-7078 X-ray tube, nicknamed the Snowbird. Amended Complaint [33] at ¶¶ 10, 12. In connection with its development of the Snowbird X-ray tube, Plaintiff obtained

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<sup>1</sup> This factual account comes from the allegations in Plaintiff's amended complaint, presumed to be true for purposes of this motion. *See Ashcroft v. Iqbal*, 556 U.S. 662, 678 (2009) (quoting *Bell Atl. Corp., v. Twombly*, 550 U.S. 544, 570 (2007)) (the only issue at this juncture is whether Plaintiff's complaint alleges "sufficient factual matter, accepted as true, to 'state a claim to relief that is plausible on its face.'").

several patents, including U.S. Patent No. 6,456,692 (the ‘692 patent”), entitled “High Emissive Coatings on X-Ray Tube Components,” and U.S. Patent No. 6,519,317 (the ‘317 patent), entitled “Dual Fluid Cooling System for High Power X-Ray tubes.” *Id.* at ¶¶ 11, 27, 31. The ‘692 patent discloses “an X-ray tube with a vacuum enclosure in which a cathode generates electrons that are converted into X-rays upon collision with a rotating anode, which is supported by a rotor incorporating a highly emissive coating, and in which the bearing assembly that supports the rotor is located at least partially within the rotating anode.” *Id.* at ¶ 30. The ‘317 patent discloses “a system and method for cooling a high-power X-ray tube in which an X-ray tube is disposed within a housing, a first coolant in the housing absorbs heat from the X-ray tube, and a second coolant flows through a passageway within the tube that directs the flow of the second coolant proximate to a portion of the X-ray tube.” *Id.* at ¶ 34. The Snowbird X-ray tube incorporates the emissive coating claimed in the ‘692 patent and the dual coolant system claimed in the ‘317 patent. *Id.* at ¶ 36.

Plaintiff sells its Snowbird X-ray tubes to Toshiba/Canon for use in the Toshiba/Canon Aquilion Computed Tomography (“CT”) System. *Id.* at ¶ 10. For any given CT scanner, Toshiba/Canon purchases numerous X-ray tubes, as the tubes are consumables that require periodic replacement during the scanner’s useful life. *Id.* at ¶ 16. When Toshiba/Canon returns spent Snowbird tubes to Plaintiff, Plaintiff scraps the X-ray tube insert and examines components to see if they can be refurbished and reused; the tube itself is destroyed. *Id.* at ¶ 25.

Defendant manufactures and sells aftermarket components for medical devices, including an X-ray tube called the ALTA750, an alternative to the Snowbird X-ray tube. *Id.* at ¶¶ 37–38. Defendant manufactures the ALTA750 by combining used Snowbird components and newly-manufactured components. *Id.* at ¶¶ 41–44. The ALTA750 X-ray tube is then placed in a used Snowbird X-ray tube housing and sold to Defendant’s customers. *Id.* at ¶ 45.

Plaintiff sued Defendant, claiming that Defendant’s ALTA750 X-ray tube infringes both the ‘692 and the ‘317 patents. Defendant has moved to dismiss, invoking the doctrine of patent exhaustion.

## **B. Discussion & Analysis**

To survive a motion to dismiss under Rule 12(b)(6), a complaint must provide a “short and plain statement of the claim” showing that the pleader merits relief, Fed. R. Civ. P. 8(a)(2), so the defendant has “fair notice” of the claim “and the grounds upon which it rests,” *Twombly*, 550 U.S. at 555 (quoting *Conley v. Gibson*, 355 U.S. 41, 47 (1957)). A complaint must also contain “sufficient factual matter” to state a facially plausible claim to relief—one that “allows the court to draw the reasonable inference” that the defendant committed the alleged misconduct. *Iqbal*, 556 U.S. at 678 (2009) (quoting *Twombly*, 550 U.S. at 570). This plausibility standard “asks for more than a sheer possibility” that a defendant acted unlawfully. *Id.* In evaluating a complaint under Rule 12(b)(6), this Court accepts all well-pleaded allegations as true and draws all reasonable inferences in the plaintiff’s favor. *Id.* This Court need not, however, accept a complaint’s legal conclusions as true. *Brooks v. Ross*, 578 F.3d

574, 581 (7th Cir. 2009).

In moving to dismiss Plaintiff's complaint, Defendant argues that Plaintiff's right to assert an infringement claim with respect to the Snowbird X-ray tube ceased with the sale of the tube to Toshiba/Canon. Defendant argues that, because its ALTA750 tube is essentially a refurbished Snowbird tube, Plaintiff's claims are barred by the doctrine of patent exhaustion and must be dismissed under *Impression Products, Inc. v. Lexmark International, Inc.*, 137 S. Ct. 1523 (2017).

In *Lexmark*, the patentee designed, manufactured, and sold laser printer toner cartridges to consumers and held a number of patents covering components of those cartridges and their use. 137 S.Ct. at 1529. Impression Products, a remanufacturer, acquired empty Lexmark toner cartridges, refilled them, and resold them. *Id.* Lexmark sued for patent infringement, and Impression Products moved to dismiss, invoking the doctrine of patent exhaustion. *Id.* at 1529–30. The Supreme Court agreed with Impression Products that Lexmark's patent rights were exhausted when it sold the cartridges: the Court noted that, although the Patent Act grants patentees the right to exclude others from making, using, offering for sale, or selling their inventions, the longstanding doctrine of patent exhaustion limits that right to exclude. *Id.* at 1531. "When a patentee chooses to sell an item . . . [that] sale terminates all patent rights to that item." *Id.* (quoting *Quanta Computer, Inc. v. LG Electronics, Inc.*, 553 U.S. 617, 625 (2008)).

Defendant here similarly argues that, when Plaintiff sold its Snowbird X-ray tubes to Toshiba/Canon, its right to exclude others from using, making, or selling

those tubes terminated. As a result, Plaintiff no longer has patent rights to enforce against Defendant as to those tubes, and any infringement claim based on the tubes necessarily fails. As explained below, however, Plaintiff's sale of the tubes does not necessarily end the matter.

Under the doctrine of patent exhaustion, “the initial authorized sale of a patented item terminates all patent rights to that item.” *Quanta Computer*, 553 U.S. at 625. “The right of use transferred to a purchaser by an authorized sale ‘include[s] the right to repair the patented article.’” *Auto. Body Parts Ass’n v. Ford Glob. Techs., LLC*, 930 F.3d 1314, 1323 (Fed. Cir. 2019) (quoting *Kendall Co. v. Progressive Med. Tech., Inc.*, 85 F.3d 1570, 1573 (Fed. Cir. 1996)). But the right of repair does not “permit a complete reconstruction of a patented device or component.” *Id.* (citing *Helperich Patent Licensing, LLC v. N.Y. Times Co.*, 778 F.3d 1293, 1303–05 (Fed. Cir. 2015); *Kendall*, 85 F.3d at 1573–74). *See also Robert Bosch LLC v. Trico Prod. Corp.*, No. 12 C 437, 2014 WL 2118609, at \*2 (N.D. Ill. May 21, 2014) (“The unrestricted sale of a patented product ‘exhausts’ the patentee’s right to control the purchaser’s use of the product. After the sale, the purchaser ‘has the rights of any owner of personal property, including the right to use it, repair it, modify it, discard it, or resell it, subject only to overriding conditions of the sale.’ But the right to repair the purchased product does not include the right to ‘construct an essentially new article on the template of the original, for the right to make the article remains with the patentee.’”) (quoting *Jazz Photo Corp. v. International Trade Com’n*, 264 F.3d 1094, 1102, 1105 (Fed. Cir. 2001)).

Thus, it is not enough to find that Plaintiff sold the tubes to Toshiba/Canon. The sales notwithstanding, the Court must go on to analyze whether Defendant's conduct amounts to a "permissible repair" of the spent X-ray tube, or whether Defendant actually is using, making, or selling the patented invention without authority.

In *Aktiebolag v. E.J. Company*, 121 F.3d 669 (Fed. Cir. 1997), the patent in suit was directed to a drill with a shank portion and a unique tip; the tip was not separately patented. *Id.* at 670. The patent disclosed that the tip was attached to the shank through brazing, a process similar to soldering but requiring a much higher temperature. *Id.* at 671. The patentee expected that the tip would have to be re-sharpened several times over the life of the drill, and even issued guidelines explaining how to re-sharpen the tip. *Id.* But the patentee never intended for the tips to be replaced and did not manufacture or sell replacement tips; rather, it intended that when the tips could no longer be re-sharpened, the drill was spent. *Id.* at 671–72.

Defendant offered a drill repair service, which included both re-sharpening services and re-tipping services. *Id.* at 671. For the former, Defendant followed the patentee's guidelines for re-sharpening; for the latter, Defendant used the same brazing process to remove the old tip and attach the new tip; it then used the patentee's sharpening guidelines to cut the new tip's edges. *Id.* at 672. The patentee sued for infringement based upon the re-tipping services only; it did not contend that re-sharpening infringed the patent. *Id.* at 671–72.

The Federal Circuit noted that, when the patentee sold the drill to its customers, “it granted them an implied license to use the drill for its useful life,” which included “the right to repair the patented drill.” *Id.* at 672. But it also noted that direct infringement still “includes the making of a patented article without authority.” *Id.* Thus, to resolve the infringement claim, the court had to decide “whether defendant’s actions constituted a permissible repair or an infringing reconstruction.” *Id.*

Noting that the “Supreme Court has taken an expansive view of what constitutes a permissible repair,” and acknowledging the absence of any “bright-line test for determining whether an impermissible reconstruction or a permissible repair has occurred,” the court in *Aktiebolag* nonetheless determined, based on all of the facts of the case, that Defendant’s re-tipping services amounted to reconstruction of an otherwise spent device. *Id.* at 674. Accordingly, the court held, the drill tip replacements infringed the patents in suit. *Id.*

There exists a “continuum” between repair (preserving the useful life of the original article) and reconstruction (making a substantially new article), *e.g.*, *Jazz Photo Corp.*, 264 F.3d at 1102, and the classification of conduct as one versus the other necessarily depends upon the facts of the case. Courts considering “whether a defendant has made a new article, after the device has become spent,” analyze “the nature of the actions by the defendant, the nature of the device and how it is designed (namely, whether one of the components of the patented combination has a shorter useful life than the whole), whether a market has developed to manufacture or service

the part at issue, and objective evidence of the intent of the patentee.” *Id.* at 673. Courts must consider the question “under the totality of the circumstances.” *Id.* at 673–74.

With regard to the nature of Defendant’s actions, Plaintiff alleges that Defendant does not repair old Snowbird X-ray tubes but manufactures its tube as a new article through a combination of used and new components. [33] at ¶ 41. To the degree this allegation constitutes a legal conclusion, this Court need not accept it as true. But Plaintiff further alleges that: Defendant manufactures vacuum enclosures, bearing assemblies, and electron sources with the same dimensions as the components used in the Snowbird X-ray tube, *id.* at ¶ 42; Defendant manufactures its own shield structure that it integrates with the vacuum enclosure, bearing assembly, and electron source, *id.*; and Defendant takes the used Snowbird X-ray tubes, cuts them open, destroying the vacuum enclosure and shield structure, removes the anode assemblies and thermal disks, and then combines parts scavenged from the used Snowbird X-ray tube with newly-manufactured components in an enclosure, “which is then processed to ensure that the enclosed components operate in a vacuum,” *id.* at ¶ 43–44. Finally, Plaintiff alleges that Defendant has advertised and sold the accused product as “newly manufactured” and “new,” rather than as a re-sale or refurbishment of Plaintiff’s Snowbird X-ray tube. *Id.* at ¶ 38. Plaintiff also alleges that Defendant, in fact, sells refurbished tubes, but it sells those at a discount not available for the reconstructed tubes, further buttressing the notion that these are new articles, not refurbished ones. *Id.* at ¶¶ 71–72.



With regard to the nature of the device and how it is designed, Plaintiff alleges that X-ray tubes are known within the industry to be consumables, and that, within the lifespan of a CT scanner, Toshiba/Canon will have to replace the tubes multiple times. [33] at ¶ 16. Plaintiff alleges that the Snowbird X-ray tube is not designed to be repaired or have a worn component individually replaced. *Id.* at ¶ 22. The only way to access an internal component from a Snowbird X-ray tube is to cut it open, destroying the tube's ability to function because it can no longer hold a proper vacuum. *Id.* The Snowbird shield structure is brazed to portions of the vacuum enclosure to create an integrated assembly, and once the vacuum enclosure becomes compromised, a new shield structure must be manufactured; the vacuum cannot simply be repaired, but the other components would have to be reconditioned and put through the extensive cleaning and vacuum process used to manufacture the tube in the first place. *Id.* at ¶¶ 23–24.

As to whether a market has developed to manufacture or service the part at issue, Plaintiff alleges that there exists “no recognized industry or market for repair of Snowbird X-ray tubes in which a service provider identifies a worn component within a Snowbird X-ray tube, replaces that component, and then returns the Snowbird X-ray tube to its owner.” *Id.* at ¶ 66.

With regard to the intent of the patentee, Plaintiff alleges that it does not repair Snowbird X-ray tubes in a way that involves replacing or repairing any individual parts within the X-ray tube; the brazing of components, the process required to create the vacuum inside the tube and prevent impurities in the tube

make interior individual component replacement impractical. *Id.* at ¶ 26. Plaintiff alleges that, when Toshiba/Canon returns a spent Snowbird X-ray tube, Plaintiff scraps the tube insert and examines components to see if they can be refurbished and reused; the tube itself is destroyed. *Id.* at ¶ 25.

In short, Plaintiff has alleged facts consistent with each of the above factors to indicate that this case involves a reconstruction and not a repair. “Precedent has classified as repair the disassembly and cleaning of patented articles accompanied by replacement of unpatented parts that had become worn or spent, in order to preserve the utility for which the article was originally intended”; “reconstruction,” on the other hand, “requires a more extensive rebuilding of the patented entity.” *Jazz Photo Corp. v. Int’l Trade Comm’n*, 264 F.3d 1094, 1103–04 (Fed. Cir. 2001). For purposes of the present motion, the facts alleged in Plaintiff’s amended complaint place Defendant’s conduct squarely on the reconstruction end of the continuum.

Having said that, the court in *Aktiebolag* ruled at summary judgment, in the absence of material factual disputes. Deciding whether given conduct amounts to a repair or a reconstruction requires a deep dive into the facts—not the type of inquiry to be resolved on a motion to dismiss, where the Court looks only to the allegations of the complaint. Significantly, *Aktiebolag* instructs that replacing the novel features of the patented invention is not dispositive of reconstruction, *id.* at 673; nor is it dispositive of reconstruction that the accused process is as difficult, expensive, or time-consuming as the original manufacturing process. *Id.* at 672. Thus, Plaintiff’s

allegations concerning the complexity of the manufacturing process and the difficulty of creating and preserving a vacuum may ultimately not carry the day.

Similarly, although Plaintiff did not intend its Snowbird X-ray tubes to be refurbished, “the patentee’s unilateral intent, without more, does not bar reuse of the patented article, or convert repair into reconstruction.” *Fuji Photo Film Co. v. Int’l Trade Comm’n*, 474 F.3d 1281, 1296 (Fed. Cir. 2007) (citing *Jazz Photo Corp. v. Int’l Trade Comm’n*, 264 F.3d 1094, 1106 (Fed. Cir. 2001); *Hewlett–Packard Co. v. Repeat–O–Type Stencil Mfg. Corp., Inc.*, 123 F.3d 1445, 1453 (Fed. Cir. 1997)). Indeed, “a seller’s intent [with respect to repair rights], unless embodied in an enforceable contract, does not create a limitation on the right of a purchaser to use, sell, or modify a patented product as long as a reconstruction of the patented combination is avoided. A noncontractual intention is simply the seller’s hope or wish, rather than an enforceable restriction.” *Hewlett–Packard Co. v. Repeat–O–Type Stencil Mfg. Corp., Inc.*, 123 F.3d 1445, 1453 (Fed. Cir. 1997), *cited in Zenith Elecs. Corp. v. PDI Commc’n Sys., Inc.*, 522 F.3d 1348, 1362 (Fed. Cir. 2008).

Finally, the mere fact that Defendant had to destroy parts of the X-ray tube is not, by itself, dispositive of the repair/reconstruction question. The Federal Circuit has held in a variety of contexts that replacement of a part that must be broken or removed to repair the device does not convert permissible repair into impermissible reconstruction. *Fuji Photo Film Co.*, 474 F.3d at 1296–97. All of which is to say that applying the above standards on a completely developed factual record may well yield the opposite result. But for now, Plaintiff has alleged facts to support its claim that

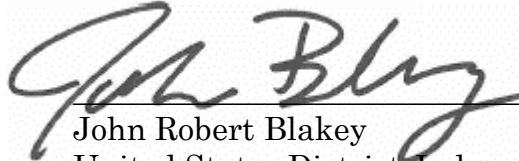
Defendant's actions amount to an impermissible reconstruction of the patented invention.

C. Conclusion

For the reasons explained above, the Court finds that Plaintiff has alleged facts to suggest that Defendant's actions with respect to the Snowbird X-ray tube constitute a reconstruction, and not simply a repair. As a result, the Court cannot say that the doctrine of patent exhaustion bars Plaintiff's claims. Defendant's motion to dismiss [43] is, accordingly, denied.

Dated: August 27, 2019

Entered:



John Robert Blakey  
United States District Judge